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Chapter 4 Cross Section Information Input

From the Cross Section Information tab in the Edit Highway dialog box the following data may be set:

- Cross Slope (Superelevation)
- Pavement Type
- Surface Type
- Shoulder Definition (Width, Slope, Material)
- Shoulder Rounding

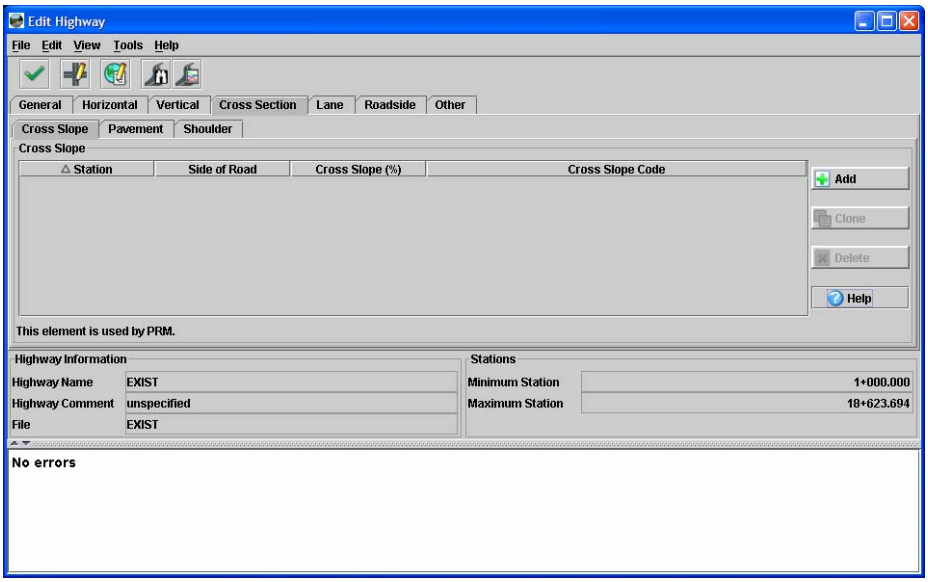
The following workflows will guide the user on how to input each set of data using IHSDM. The title of the workflow will also indicate the modules that use that data in parenthesis. Therefore, if the user does not want a certain module, they will not waste time importing data that is not needed.

Cross Slope

Since LandXML does not export superelevation data, the user needs to use either the IHSDM commands or Excel input to enter the highway's superelevation information.

Workflow 1: Cross Slope (PRM)

1. *Pick the Edit the Current Highway button*  *while in the Main IHSDM Dialog box. This dialog box is shown in step 16 of workflow 2 in chapter 2.*
2. *Click on the General>Terrain Tabs and the following dialog box will appear:*



3. *Pick the Add button at the right of the dialog box and the Row will be populated with data fields for the Station, Side of Road, Cross Slope (%) and Cross Slope Code. Double click the Station data field to enter the station for the cross slope. Tab to the Side of Road and use the pull down menu to select the desired side of road. Tab to the Cross Slope (%) field and type in the correct cross slope. This should be in percentage format (type in -2.00 for a normal cross slope). The Cross Slope Code is entered by IHSDM. To add another line pick Add again*

Because there generally is a large amount of cross slope data to enter, the most efficient method of entering this data is using the Excel method.

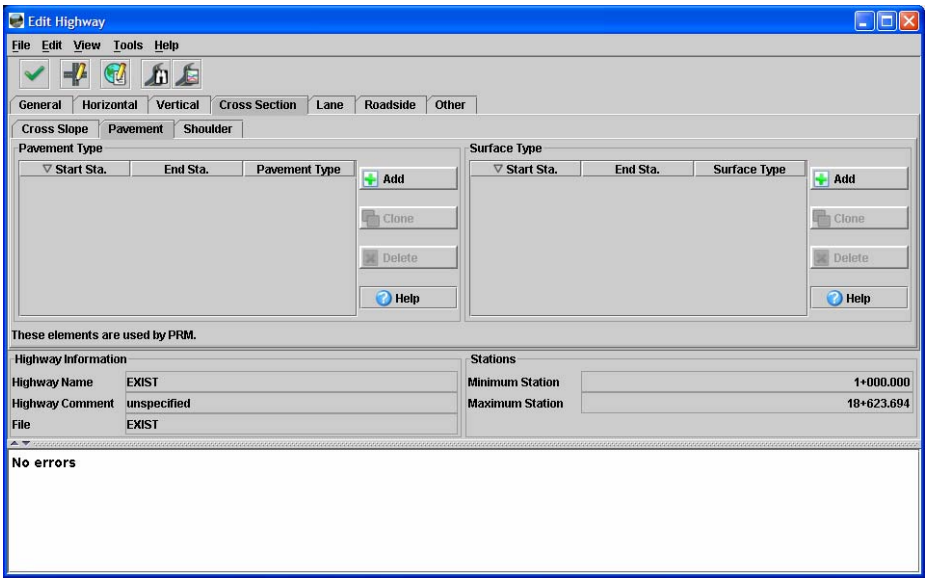
Pavement Type

IHSDM utilizes the following pavement types:

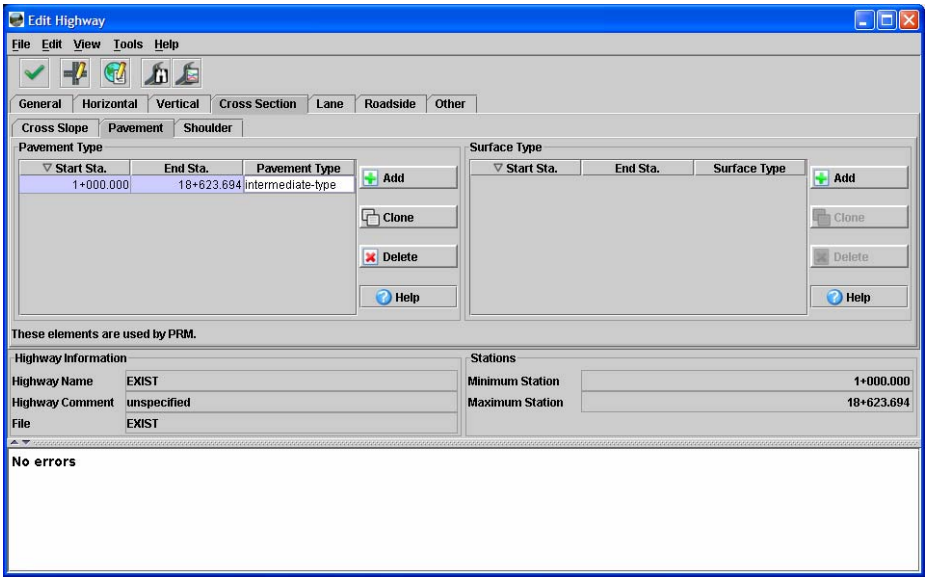
- High-type; Pavements are those that retain smooth riding qualities and good non-skid properties in all weather under heavy traffic volume and loadings with little maintenance. (i.e. use where there is > 10% commercial truck traffic or ADT > 2000)
- Intermediate-type; Pavements are those designed to retain smooth riding qualities and good non-skid properties in all weather, but under lighter truck loads and lesser traffic volumes. (i.e. where commercial truck traffic < 10% and ADT < 2000)
- Low-type; Pavements are those with treated earth surfaces and those with loose aggregate surface.

Workflow 2: Pavement Type (PRM, IRM)

1. *Click on the Cross Section>Pavement Tab and the following dialog box will appear:*

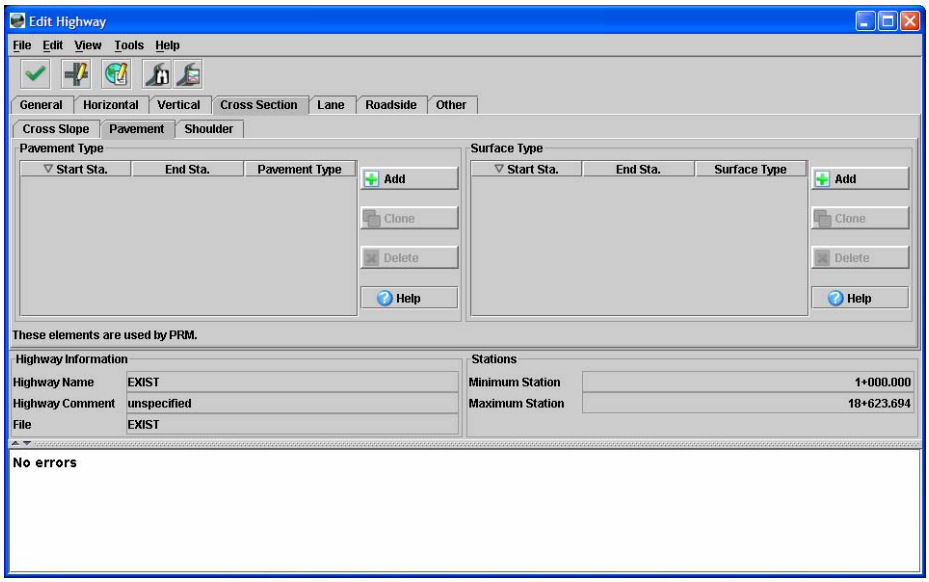


3. *Pick the Add button in the middle of the dialog box and the Row will be populated with the Start Sta., End Sta. and Pavement Type. The Station boxes can be modified by double clicking on the text. A pavement type pull down menu will be activated by clicking on the pavement type text. If the pavement type changes within the project the user can add another line by simply clicking Add again.*

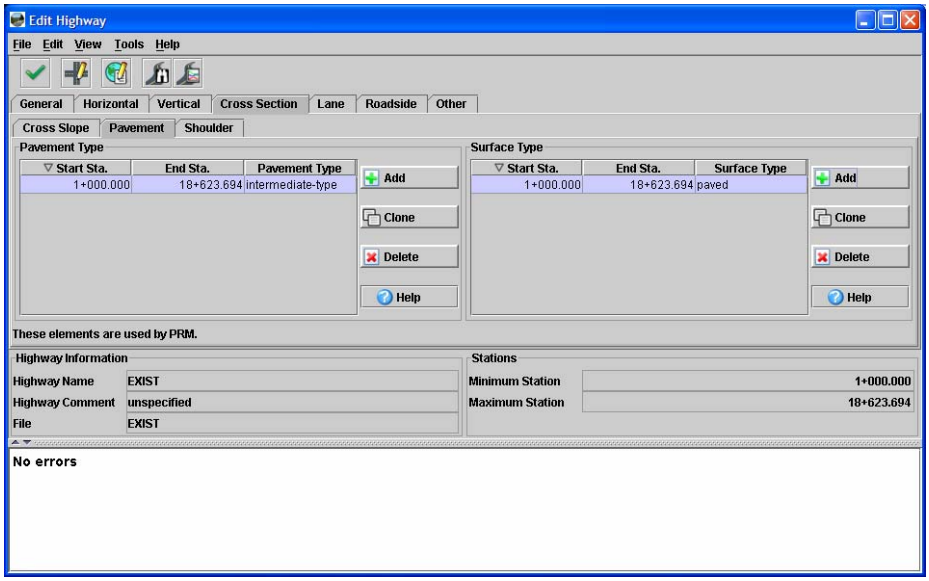


Workflow 3: Surface Type data (PRM)

1. *Click on the Cross Section>Pavement Tab of the Edit Highway dialog box to get the following dialog box:*



2. *Pick the Add button on the right side of the dialog box and the Row will be populated with the Start Sta., End Sta. and Surface Type. The Station boxes can be modified by double clicking on the text. A surface type pull down menu will be activated by clicking on the Surface type text. If the surface type changes within the project the user can add another line by simply clicking Add again.*



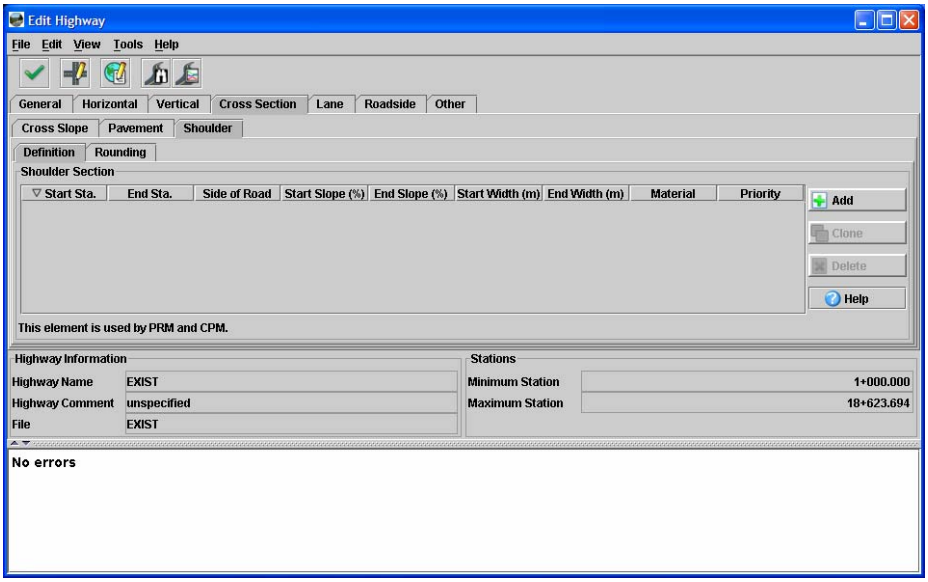
Shoulder Definition

This section allows the user to define the width and slope of the shoulder. A composite shoulder, i.e. 1 meter paved + 1 meter turf can also be defined using the Priority data field. A row is needed for each change in shoulder width and at superelevation changes. Because of

this, the user may consider using the Excel method described at the end of this chapter.

Workflow 4: Shoulder Definition (PRM, CPM)

1. *Click on the Cross Section>Shoulder>Definition Tab of the Edit Highway dialog box to get the following dialog box:*



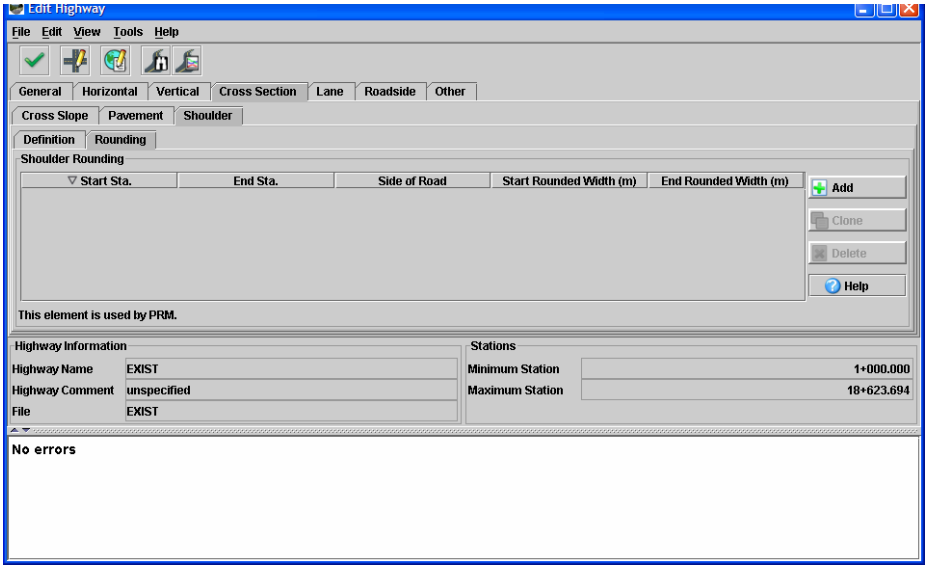
2. *Pick the Add button on the right side of the dialog box and the Row will be populated with the Start Sta., End Sta. Side of Road, Start Slope (%), End Slope (%), Start Width (m), End Width (m), Material and Priority. The Station boxes can be modified by double clicking on the text. A Side of Road type pull down menu will be activated by clicking on the Side of Road type text. The slope and width text fields can be modified by tabbing through them. A pull down menu allows the user to specify the material of the shoulder. If the shoulder is composite, use a priority of 10 for the pavement portion of the shoulder and a 100 for the turf portion of the shoulder. Add another row for a change of cross slope, width or surface type.*

Shoulder Rounding

If the project has shoulder rounding, the user can use this field to model it.

Workflow 5: Shoulder Rounding (PRM)

1. *Click on the Cross Section>Shoulder>Rounding Tab of the Edit Highway dialog box to get the following dialog box:*



2. *Pick the Add button on the right side of the dialog box and the Row will be populated with the Start Sta., End Sta. Side of Road, Start Rounded Width (m) and End Rounded Width (m). The Station boxes can be modified by double clicking on the text. A side of road pull down menu will be activated by clicking on the Side of Road text. The Start Rounded Width is the width of rounding at the Start Sta. and the End Rounded Width is the width of the rounding at the End Sta. If the Rounding changes within the project the user can add another line by simply clicking Add again.*

Using an Excel File

The Excel file with the correct format for importing Cross Section Information into IHSDM is DEA.Cross Section.xls. This file can be found in:

N:\Standards\IHSDM\

or on the CFLHD web site at the following link:

http://www.cflhd.gov/ihsdm.cfm

When you open this file, there is a read me worksheet along with 8 other worksheets that will be used to input all the general information. Each worksheet will describe what each variable is and what it is used for. The following workflow will describe the process for entering this information into IHSDM.

Workflow 6: Excel Input

1. *Enter the correct data in the Excel spreadsheet.*
2. *Highlight the entered data and go to Edit>Copy.*

3. *Click on the General Tab of the Edit Highway dialog box.*
4. *Pick the corresponding tab for the data to be inserted.*
5. *Move the mouse over the Add button and right click the mouse to get the following:*

6. *Choose Paste row(s). The information will be loaded into IHSDM.*

Notice that this procedure is most useful when there are more than a couple of lines of data.